

Demonstrate knowledge of quad vehicle performance, design, and handling characteristics

Level 4

Credits 6

Purpose People credited with this unit standard are able to:

- describe quad performance and handling characteristics;
- explain quad performance capabilities.

Subfield Driving

Domain Driver Educator

Status Registered

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Entry information Open.

Accreditation Evaluation of documentation and visit by NZQA and industry.

Standard setting body (SSB) NZ Motor Industry Training Organisation (Incorporated)

Accreditation and Moderation Action Plan (AMAP) reference 0092

This AMAP can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Special notes

- 1 References are available from the Accident Compensation Corporation, the Ministry of Transport, the NZ Transport Agency (NZTA), and other transport agencies.
- 2 For assessment against this unit standard rider actions are an integral aspect of quad performance and handling. This includes weight transfer through body positioning, and coordinated control of throttle, clutch, and controls.

3 Definitions

Ditches and *drains* are those that the rider is able to ride over as opposed to riding through.

Handling characteristics for the purposes of this unit standard refer to how a quad behaves as the result of the interaction of its design and the dynamics present at the time.

Quad vehicle (quad) means a four wheel motor vehicle with motorcycle controls.

Elements and performance criteria

Element 1

Describe quad performance and handling characteristics.

Performance criteria

1.1 The effects of load distribution on quad handling characteristics are described in terms of stability and manoeuvring.

Range quad by itself, quad with trailer.

1.2 Description includes the variations in handling capabilities and cross country performance between four wheel drive and two wheel drive quads.

Range braking performance, steering response, effect of speed, gradient and traction.

Element 2

Explain quad performance capabilities.

Performance criteria

2.1 Quad capability to cross low traction surfaces is explained in terms of quad tyre tread design, suspension, and transmission.

Range low friction surfaces include but are not limited to – wet grass, muddy areas, ice, sand, gravel.

2.2 Quad capability to negotiate water obstacles is explained.

Range position of exhaust outlet and air cleaner, tyre buoyancy, suspension.

2.3 Quad capability to cross rough and broken ground, including ditches and drains, is explained in terms of wheel size, suspension, and transmission.

2.4 Quad capability to ascend and descend hills is explained in terms of tyres, suspension, transmission, and centre of gravity.

- 2.5 Quad capability to traverse side slopes is explained in terms of quad tyres, suspension, transmission, centre of gravity, wheel base dimensions and speed.
- 2.6 Quad capability to traverse soft terrain is explained in terms of suspension, tyres, load, speed, and gear selection.
- 2.7 Quad capability to traverse uneven terrain is explained in terms of suspension, tyres, load, speed, and gear selection.
- 2.8 Quad limitations in relation to travelling at speed are explained in terms of quad design.
- Range wheel base, suspension, tyres, steering geometry.
- 2.9 Factors that affect quad braking performance are explained in relation to speed and the demands of terrain.
- Range factors – wheel base, tyres, suspension, braking system;
demands of terrain – crossing side slopes, on dry hard surfaces.

Please note

Providers must be accredited by NZQA, or an inter-institutional body with delegated authority for quality assurance, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be accredited by NZQA before they can register credits from assessment against unit standards.

Accredited providers and Industry Training Organisations assessing against unit standards must engage with the moderation system that applies to those standards.

Accreditation requirements and an outline of the moderation system that applies to this standard are outlined in the Accreditation and Moderation Action Plan (AMAP). The AMAP also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

Comments on this unit standard

Please contact NZ Motor Industry Training Organisation (Incorporated) info@mito.org.nz if you wish to suggest changes to the content of this unit standard.